

Material Test Report

Heat Code: JKX

An Ameri-Forge Group Company 13770 Industrial Rd. Houston, TX 77015

Line: 18

ISO 9001:2008 Certified

Sales: (713) 868-4421 Fax: (713) 455-8366

PLESA ANAHUAC Y CIAS SA DE CV AV. VALLE DE LAS ALAMEDAS 66-0 Item Desc: FLG 04.00 0600 WN RF XH

54940 TULTITLAN, EDO, MEX
Supplier: CMC
Supplier Heat: 3022093

Spec: ASTM A105/A105N-(10)/ASME SA 105/SA 105N-(08a) Section II Part A - Normalized

C Carbon 0.20 Ni Nickel 0.13 ▼ Mn Manganese 1.01 ✓ 7439-96-5 Cr Chromium 0.07 ▼ P Phosphorous 0.008 Mo Molybdenum 0.041 S Sulphur 0.018 V Vanadium 0.003 Si Silicon 0.24 Cb Columbium 0.001	1.01	Elen	nent	(%wt)	Ladle	Product	EPCRA	CAS#	Elen	nent	(%wt)	Ladle	Product	EPCR	A CAS#
P Phosphorous 0.008 Mo Molybdenum 0.041 S Sulphur 0.018 V Vanadium 0.003	0.008 Mo Molybdenum 0.041 0.018 V Vanadium 0.003 0.24 Cb Columbium 0.001	C	Carbon		0.20				Ni	Nickel	l.	0.13		1	7440-02-0
S Sulphur 0.018 V Vanadium 0.003	0.018 V Vanadium 0.003 0.24 Cb Columbium 0.001	Mn	in Manganese		1.01		1	7439-96-5	Cr	Chromi	ium	0.07		~	7440-47-3
	0.24 Cb Columbium 0.001	P	Phosphorous		0.008				Mo	Molybo	lenum	0.041			
Si Silicon 0.24 Cb Columbium 0.001		S	Sulphur		0.018				v	Vanadi	.um	0.003			
	0.22 ✓ 7440-50-8 C.E. 0.41	Si	Silicon		0.24				СЪ	Columb	ium	0.001			
Cu Copper 0.22 ✓ 7440-50-8 C.E. 0.41		Çu	u Copper		0.22		1 .	7440-50-8	C.E.	•		0.41			
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Mechanical T	esting	Hea	Heat Treat				
Test Lab	AFG	Norm. Temp. (F)	1675				
Test Bar Size	TEST PIECE	Norm. (Hrs)	4				
HBW	156 - 156	Norm. Cooling Type	AIR				
Elg (%)	34.0	Norm. Location	AFG				
RA (%)	63.0						
Tensile Specimen Size (in)	.496	0	ther				
Tensile (ksi)	77.1	MILL	CMC-TEXAS				
Yield (ksi)	46.3	MHC	3022093				
Gauge Length	2						
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Product compliant with NACE MR0175 and NACE MR0103 latest edition and dimensions to ANSI B16.5.

No Weld repair performed. Chemical Analysis results shown are actual. Forgings are capable of passing hydrostatic test compatible with the appropriate rating. Elongation taken from a round specimen. All material supplied under this order is certified to be free of mercury contamination and no mercury bearing equipment was used in manufacturing, fabrication or testing. Yield strength was determined using the 0.2% offset method. No welding performed.

EPCRA Supplier Notification: This product may contain one or more toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986) and 40 C.F.R. Part 372. Potentially reportable chemicals are indicated with a checkmark in the "EPCRA" column and a Chemical Abstract Services (CAS) registry number is provided for each such chemical in addition to the percent by weight of the chemical present in this product. It is your responsibility alone to determine whether your facility is required to submit a Toxic Release Inventory Report under EPCRA Section 313.

Certification No.:

207633

Certification Date:

5/11/2011

Nicholas Tepovich - Metallurgic Lab Manager